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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,036	05/30/2006	Yoshito Shimizu	L9289.06162	6003

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EXAMINER
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PHAM, TIMOTHY X

ART UNIT	PAPER NUMBER
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2617

MAIL DATE	DELIVERY MODE
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05/27/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/581,036	<b>Applicant(s)</b> SHIMIZU ET AL.	
	<b>Examiner</b> TIMOTHY PHAM	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anim-Appiah et al. (hereinafter “Anim-Appiah”; US 2004/0100898) in view of Shibuya et al. (hereinafter “Shibuya”; US 2002/0016158).

Regarding claims 1 and 8-10, Anim-Appiah discloses a reception apparatus, a communication terminal apparatus, a reception method, and a semiconductor integrated circuit (Fig. 1, reference 108; paragraphs [0027], [0032]) comprising:

a gain estimation section (Abstract; paragraph [0013]) that estimates a gain for amplifying a received signal in a predetermined reception period to a predetermined reference value for each time slot before said reception period (paragraphs [0013], [0015], [0017], [0020], [0028], [0031], [0034], [0036], [0045]);

a gain control section (Abstract) that selects a maximum gain from gains for respective time slots estimated by said gain estimation section and performs gain control over the received signal (paragraphs [0007], [0013], [0015], [0028], [0036], [0043] e.g., gain control setting  $V_{AGC}$ ).

Anim-Appiah fails to specifically disclose a voltage calibration section that calibrates offset voltage of the received signal before said reception period at said maximum gain selected by said gain control section.

However, Shibuya discloses a voltage calibration section (paragraph [0072], [0078], [0106]) that calibrates offset voltage of the received signal before reception period at maximum gain selected by gain control section (paragraphs [0064], [0072], [0078], [0106], e.g., the offset voltage setting of the automatic level control).

Therefore, taking the teachings of Anim-Appiah in combination of Shibuya as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to have a voltage calibration section that calibrates offset voltage of the received signal before reception period at maximum gain selected by gain control section for advantages of reducing a mismatch error and maintaining output power over a wide input dynamic range.

Regarding claim 2, Anim-Appiah in combination with Shibuya discloses the reception apparatus according to claim 1 above, wherein said gain estimation section estimates said gain for amplifying a received signal of the same frequency in said reception period (Anim-Appiah: paragraphs [0030]-[0031], [0034]) made up of consecutive time slots to said reference value (Anim-Appiah: paragraphs [0031], note that the signal  $y(t)$  is sampled and quantized to yield the discrete time, therefore, it is a consecutive time slots).

Regarding claim 3, Anim-Appiah in combination with Shibuya discloses the reception apparatus according to claim 1 above, further comprising a reception quality

measurement section (Anim-Appiah: Fig. 1, reference 134) that finds a measurement value indicating reception quality from a received signal (Anim-Appiah: paragraph [0028], [0034]), wherein said gain estimation section estimates said gain based on transmit power information comprising information indicating transmit power of each time slot at a communicating party and said measurement value (Anim-Appiah: paragraphs [0031], [0034], [0036], [0039], e.g., baseband processor 116 measures the power of the signal received, calculates the gain estimation).

Regarding claim 6, Anim-Appiah in combination with Shibuya discloses the reception apparatus according to claim 3 above, wherein said gain estimation section subtracts the transmit power of said transmit power information from said measurement value for each time slot and estimates the transmit power of each time slot and also estimates said gain for amplifying the received signal with the estimated transmit power to said reference value (Anim-Appiah: paragraph [0019]; claim 11, note equation [3]).

Regarding claim 7, Anim-Appiah in combination with Shibuya discloses the reception apparatus according to claim 3 above, wherein said gain estimation section sets a gain for amplifying a received signal to a predetermined reference value through a plurality of stages for each of said stages during said reception period (Anim-Appiah: Fig. 2; paragraph [0043]-[0044], note the equation [6]) and sequentially sets gains such that the gain in an earlier one of two consecutive stages is greater than or equal to the gain in a later one of said consecutive stages (Anim-Appiah: Fig. 1, reference 120, noted the Fast Fourier Transform (FFT) function performs the acts as claimed in limitation above), and said gain control section performs gain control of a received signal for each

of said stages at a gain for each of said stages set by said gain estimation section during said reception period (Anim-Appiah: Fig. 1, reference 120; paragraphs [0028], [0031], [0039], e.g., see equations [2] and [5]).

3. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anim-Appiah in combination of Shibuya as applied to claim 1 above, in view of Itoh (US 2003/0031135; Cited in IDS).

Regarding claim 4, Anim-Appiah in combination with Shibuya discloses the reception apparatus according to claim 3 above, fails to specifically disclose wherein, when a difference between an average gain obtained by averaging said gains and a minimum gain out of said gains is equal to or above a first threshold value in said reception period, said gain estimation section estimates said gain by excluding said measurement value of the time slot with said minimum gain.

However, in the same field of endeavor, Itoh discloses when a difference between an average gain obtained by averaging said gains and a minimum gain out of said gains is equal to or above a first threshold value in said reception period, said gain estimation section estimates said gain by excluding said measurement value of the time slot with said minimum gain (paragraphs [0049]-[0050]).

Therefore, taking the teachings of Anim-Appiah in combination of Shibuya and Itoh as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to set a difference between an average gain obtained by averaging gains and a minimum gain out of gains is equal to or above a first threshold value in reception period, gain estimation section estimates said by excluding said

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measurement value of the time slot with minimum gain for advantages of maintaining output power over a wide input dynamic range.

Regarding claim 5, Anim-Appiah in combination with Shibuya discloses the reception apparatus according to claim 3 above, fails to specifically disclose wherein, when a difference between said maximum gain and the minimum gain out of said gains is equal to or above a second threshold value in said reception period, said gain estimation section estimates said gain by excluding said measured value of the time slot with said minimum gain.

However, Itoh discloses when a difference between said maximum gain and the minimum gain out of gains is equal to or above a second threshold value in reception period, gain estimation section estimates gain by excluding measured value of the time slot with minimum gain (paragraphs [0049], [0050]).

Therefore, taking the teachings of Anim-Appiah in combination of Shibuya and Itoh as a whole, it would have been obvious to one having ordinary skill in the art at the time of the invention by applicant to set a difference between said maximum gain and the minimum gain out of gains is equal to or above a second threshold value in reception period, gain estimation section estimates gain by excluding measured value of the time slot with minimum gain for advantages of maintaining output power over a wide input dynamic range.

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*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY PHAM whose telephone number is (571)270-7115. The examiner can normally be reached on Monday-Friday; 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent P. Harper can be reached on 571-272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Timothy Pham/  
Examiner, Art Unit 2617

/VINCENT P. HARPER/  
Supervisory Patent Examiner, Art Unit  
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